

Notice of Allowability	Application No.	Applicant(s)	
	09/848,966	CUNNINGHAM ET AL.	
	Examiner	Art Unit	
	Nitin Patel	2673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 07/15/2005.
2. ☒ The allowed claim(s) is/are 4,5,7-15,18-19,21-34,42-46,55-66 Now renumbered 1-44 respectively.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying Indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date <u>09/14/2004</u> 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. 7. <input type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____. |
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EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Richard Swope (Reg# 53663) on 09/19/2003.

2. The application has been amended as follows:

In claim 4, Line 9 inserted ---- the second haptic feedback being a scaled version of the first haptic feedback-----.

REASON FOR ALLOWANCE

3. Claims 4,5,7-15,18-19,21-34,42-46,55-66 is allowed. Claims 1-3,6,16,17,20,35-41,47-54 have been cancelled.

4. The following is an examiner's statement of reason for allowance:

The prior art fails to teach or suggest a method having steps of updating data values associated with at least a portion of a virtual hand displayed in a graphical environment of a host computer based on a manipulation of at least a portion of an object coupled to the host computer, the portion of the virtual hand directly contacting a virtual body part to produce a virtual palpation within the graphical environment; outputting a first haptic feedback to the object when the virtual palpation within the

graphical environment occurs and outputting a second haptic feedback, the second feedback being a scaled version of the first haptic feedback as claimed in claim 4.

The prior art fails to teach or suggest a method of having steps of updating values associated with at least a portion of a virtual hand displayed in a graphical environment of a host computer based on manipulation of at least a portion of an object coupled to the host computer; outputting a first haptic feedback to the object based on a first signal associated with an interaction of the portion of the virtual hand with a graphical representation of a virtual being, the graphical representation of the virtual being having a first region and a second region different from the first region and the first haptic feedback being a simulated pulse of the virtual being and outputting a second haptic feedback based on a signal associated with an interaction of the portion of the virtual hand with the second region of the graphical representation as claimed in claim 18.

The prior art fails to teach or suggest a method having updating data values associated with at least a portion of a virtual appendage displayed in a graphical environment of a host computer based on manipulation of at least a portion of an object coupled to the host computer, the portion of the virtual appendage directly contacting a virtual subject to produce a virtual palpation of the virtual subject within the graphical environment and outputting a first haptic feedback to the object based on interaction of the portion of the virtual appendage with a graphical representation of the virtual subject within the graphical environment, the first haptic feedback simulating a palpated feature that is one of on and below a surface of the graphical representation of the virtual

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subject and outputting a second haptic a second haptic feedback to the object based on interaction of the portion of the virtual appendage with a graphical representation of the virtual subject within the graphical environment, the second haptic feedback simulating a palpated feature that is one of one and below a surface of the graphical representation of the virtual subject as claimed in claim 24.

The prior art fails to teach or suggest a simulator having a manipulatable object in communication with a processor the processor associated with a graphical representation of at least a portion of a virtual subject; a sensor coupled to the manipulatable object and in communication with the processor, the sensor configured to update data values associated with at least a portion of a virtual appendage in the graphical representation based on a manipulation of the manipulatable object; an actuator coupled to the manipulatable object and configured to output haptic feedback based on interaction of the portion of the virtual appendage with a region within the graphical representation the haptic feedback simulating a heartbeat induced vascular pulse of the virtual subject and the manipulatable object includes a housing of a mouse as claimed in claim 42.

The prior art fails to teach or suggest a program storage device readable by a machine, tangibly embodying a program of instruction executable by the machine to perform a method for updating data values associated with at least a portion of a virtual appendage displayed in a graphical environment of a host computer and outputting a first and second haptic feedback to an object coupled to the host computer the method having steps of updating data values associated with at least a portion of a virtual

appendage displayed in a graphical environment of a host computer based on manipulation of at least a portion of an object coupled to the host computer; producing a virtual palpation of the virtual subject within the graphical environment when the portion of the virtual appendage directly contacts a virtual subject part; outputting a first haptic feedback to the object based on interaction of the portion of the virtual appendage with a graphical representation of the virtual subject within the graphical environment the first haptic feedback simulating a palpated feature that is one of on and below a surface of the graphical representation of the virtual subject and outputting a second haptic feedback to the object based on interaction of the portion of the virtual appendage with a graphical representation of the virtual subject within the graphical environment the second haptic feedback simulating a palpated feature that is one of one and below a surface of the graphical representation of the virtual subject as claimed in claim 66.

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nitin Patel whose telephone number is 571-272-7677. The examiner can normally be reached on 8:00-5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin H. Shalwala can be reached on 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NP

September 17, 2005

A handwritten signature in black ink, appearing to read 'Vijay Shankar', with a long, sweeping flourish extending from the end of the name.

**VIJAY SHANKAR
PRIMARY EXAMINER**